NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date: TBD

Region: Asheville Regional Office
County: Haywood
NC Facility ID: 4400857
Inspector's Name: n/a
Date of Last Inspection: n/a
Compliance Code: n/a

Facility Data

Applicant (Facility's Name): White Oak Landfill

Facility Address:
White Oak Landfill
3898 Fines Creek Road
Waynesville, NC 28785

SIC: 4953 / Refuse Systems
NAICS: 562212 / Solid Waste Landfill

Facility Classification: Before: N/A **After:** Title V
Fee Classification: Before: N/A **After:** Title V

Permit Applicability (this application only)

SIP: 02D: .0524, .1110, .1806
NSPS: Subpart XXX
NESHAP: Part 61, Subpart M
PSD: n/a
PSD Avoidance: n/a
NC Toxics: n/a
112(r): n/a
Other: n/a

Contact Data

Facility Contact	Authorized Contact	Technical Contact
John Preston Landfill Manager (423) 650-3095 650 25th Street NW, Suite 100 Cleveland, TN 37311	Ron Vail Executive Vice President of Engineering (423) 303-7101 650 25th Street NW, Suite 100 Cleveland, TN 37311	Robert Hudson Environmental Compliance Coordinator (423) 303-7101 650 25th Street NW, Suite 100 Cleveland, TN 37311

Application Data

Application Number: 4400857.17A
Date Received: 04/17/2017
Application Type: Greenfield Facility
Application Schedule: State

Existing Permit Data
Existing Permit Number: N/A
Existing Permit Issue Date: N/A
Existing Permit Expiration Date: N/A

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
Greenfield facility, no previous inventory data							

Review Engineer: Russell Braswell

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 10535/T00
Permit Issue Date: TBD
Permit Expiration Date: TBD

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1. Purpose of Application:

White Oak Landfill (WOL) is an existing municipal solid waste landfill (MSWL) that is owned by Haywood County and is operated by Santek Environmental, LLC. The landfill is located in Waynesville, Haywood County, North Carolina.. It currently does not have an Air Quality Permit in accordance with 15A NCAC 02Q .0102(g)(13).

According to 40 CFR 60.762(b), a MSWL with a design capacity greater than 2.5 million megagrams and/or 2.5 million cubic meters is subject to the permitting requirements of 40 CFR Part 70 and 71 (aka Title V permit). WOL plans to expand the capacity of the landfill beginning in early 2018, and the expansion will put the capacity above this threshold and trigger a modification in accordance with 40 CFR 60.761.

This Greenfield/1st Time Title V permit application will be processed in accordance with regulation 15A NCAC 2Q .0501(c)(1) and will go through the 30-day public notice and the 45-day EPA review at this time.

2. Facility Description:

The facility is a MSWL that began operation in 1993. As currently constructed, the facility's capacity is less than the thresholds in 40 CFR 60.762(b). On March 21, 2017, WOL was issued a new solid waste management facility permit (No. 44-07) which allowed for expansion to a planned design capacity of 3.6 million cubic meters, which is above the threshold in 40 CFR 60.762(b). Currently, there is no landfill gas collection and control system (GCCS) in place. Based on the result of planned testing, WOL may be required to install a GCCS at a later date.

In addition to the MSWL, a portable tub grinder is occasionally employed at the site to process wood waste. The engine of the tube grinder will be evaluated as a non-road engine and the grinder will be evaluated as an insignificant activity.

3. Application Chronology:

- April 17, 2017 Application received in the Asheville Regional Office.
- April 21, 2017 Application received in Raleigh Central Office and assigned to Yuki Puram.
- June 13, 2017 Yuki Puram requested that WOL submit data for an air dispersion modeling demonstration.
- July 18, 2017 Modeling data received and sent to Air Quality Analysis Branch (AQAB).
- August 9, 2017 AQAB issued a memo stating that, based on the data received, there was no unacceptable risk to human health.
- October 31, 2017 Application transferred to Russell Braswell.
- November 21, 2017 An initial draft of the permit and review were sent to DAQ staff (Tom Anderson, Mark Cuilla, Booker Pullen, Samir Parekh, Brendan Davey, Chris Scott), WOL

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staff (Ron Vail) and SCS Engineers[1] staff (David Greene). For a summary of comments received, see Attachment 2.

- January 3, 2018 — A second draft of the NSPS Subpart XXX permit condition was sent to David Greene. He confirmed by phone on January 16, 2018 that WOL had no issues with the new permit condition.

- January 16, 2018 — Phone call to David Greene requesting details about the operation of the tub grinder. He responded by email the next day.

- XXXXX — Public / EPA notice

- XXXXX — Permit issued.

4. Regulatory Overview:

WOL will be subject to the following State Implementation Plan (SIP) and Federal regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0524 "New Source Performance Standards" (40 CFR Part 60, Subpart XXX)
- 15A NCAC 02D .1110 "National Emission Standards for Hazardous Air Pollutants" (40 CFR Part 61, Subpart M)
- 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"

A review of these rules and WOL's compliance therewith will be discussed below. Additionally, rules that do not apply to this facility will be discussed.

a. New Source Performance Standards (40 CFR Part 60, aka NSPS) Subpart WWW "Municipal Solid Waste Landfills"

This rule applies to MSWLs that commenced construction/modification after May 30, 1991. WOL began construction after this date, so technically this rule applies.

US EPA promulgated NSPS Subpart XXX on August 29, 2016, and that rule ultimately took effect one year after the promulgation date. Subpart XXX applies to landfills that commenced construction/reconstruction after July 17, 2014. NC DAQ believes that US EPA intended for Subpart WWW to not apply to a landfill that is also subject to Subpart XXX, but there are no provisions in this rule that allow for a source to be exempt. In general, the requirements of Subpart XXX are more stringent that Subpart WWW. NC DAQ believes that US EPA will issue a correction to this rule in the future that clarifies the relationship between Subparts WWW and XXX.

The air quality permit will not include a permit condition for Subpart WWW. Instead, the permit will include a permit shield for this rule, as allowed under 15A NCAC 02Q .0512(a)(1)(B).

1 A consulting firm working with WOL.

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b. NSPS Subpart XXX "Municipal Solid Waste Landfills That Commenced Construction, Reconstruction, or Modification After July 17, 2014"

This rule applies to MSWLs that commenced construction/reconstruction after July 17, 2014. While WOL was originally constructed in 1993, the facility is currently planning an expansion. Expanding the facility is considered a modification, so WOL will be subject to this rule once that expansion project begins.

The generation of landfill gas results in emissions of non-methane organic compounds (NMOCs), volatile organic compounds (VOCs), hazardous air pollutants (HAPs), methane and carbon dioxide. Since no collection or control system is in operation at this landfill, it is assumed that all landfill gas and associated pollutants generated by the landfill are emitted passively to the atmosphere. Landfill gas emissions were estimated using SCS Engineers' version of the U.S. EPA Landfill Gas Emissions Model (LandGEM). See Attachment 1 for the calculations performed by SCS Engineers. In summary, LandGEM estimated that the methane generation rate for 2022 (the highest year in the permitting period) is approximately 5.6 million cubic meters per year. Assuming that the methane content in the landfill gas is 50 percent, the volume of landfill gas generation in 2022 is estimated to be 755 cubic feet per minute.

Year	NMOC Generation[1]	NMOC Generation[1]	NMOC Emissions[2]	VOC Generation[3]	VOC Emissions[2,3]	HAP Emissions[2,3]
2022	23.97 Mg/yr	26.42 tons/yr	26.42 tons/yr	10.30 tons/yr	10.30 tons/yr	5.14 tons/yr

Notes:
[1] NMOC concentration 595 ppm_v (AP-42 Section 2.4, table 2.4-2).
[2] Because no GCCS is currently operated, 100% of generations conservatively assumed to be emitted.
[3] VOC generation is assumed to be 39% of NMOC generation (AP-42 Section 2.4, Table 2.4-2).

The requirements of this rule differ based on the size of the landfill. For a landfill of this size, the rule requires the facility seek a permit under 40 CFR Part 70 and 71, and also perform annual emission capacity calculations. If the result of those calculations shows an emission rate of greater than 34 megagrams per year of NMOC, then the facility must either perform site-specific testing or install a gas collection and control system (GCCS). The rule specifies several compliance requirements for any GCCS.

In the permit application, WOL stated that site-specific testing is planned in 2018. As of the time this permit is issued, a GCCS is not required.

Until a GCCS is required, the facility is required to perform calculations and submit annual reports.

This rule will be incorporated into the permit under 15A NCAC 02D .0524. Compliance with this rule will be determined during the first inspection and subsequent reports.

c. National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61, aka NESHAP) Subpart M "National Emission Standard for Asbestos"

This rule applies to (among other specific facilities) "active waste disposal sites" that accept asbestos-containing materials. WOL meets this definition, and is therefore subject to this rule.

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In order to comply with this rule, WOL must choose a set of general work practices for the landfill (e.g. ensure no visible emissions, or ensure that asbestos-containing waste is buried every day). WOL must also keep records of each asbestos-containing shipment and submit regular reports.

This rule will be incorporated into the permit under 15A NCAC 02D .1110. Compliance with this rule will be determined during the initial inspection.

d. Maximum Available Control Technology (40 CFR Part 63, aka MACT) Subpart AAAA "Municipal Solid Waste Landfills"

This rule applies to landfills that either a) are HAP-Major Sources or b) are required by regulation to install a GCCS.

Based on the emission calculations provided by WOL, this facility is not a Major Source of HAPS, and is not currently required by regulation to install a GCCS.

Therefore, this rule does not apply to this facility at this time. For clarity, the permit will include a permit shield for this rule, as allowed under 15A NCAC 02Q .0512(a)(1)(B).

e. Federal programs not applicable to this facility:

1. Prevention of Significant Deterioration (PSD)

Based on the potential emission rate of each PSD-triggering pollutant, this facility will not be a PSD-Major Source. Therefore, no PSD review or BACT limits will be required.

2. Section 112(r) of the Federal Clean Air Act

The facility does not appear to store any 112(r)-subject materials above their respective thresholds. Therefore, the facility does not have any increased requirements under Section 112(r) of the Clean Air Act.

3. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

4. Compliance Assurance Monitoring (CAM)

CAM applies to facilities that use control devices to comply with air emission standards. This facility will not use any control devices, so CAM will not apply.

f. Other SIP Rules

1. 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"

The only other rule that will apply to this facility is 02D .1806 "Control and Prohibition of Odorous Emissions". In order to comply with this rule, the facility must operate such that it does not contribute to substantiated complaints of odorous emissions outside of the facility's property.

Compliance with this rule will be evaluated during subsequent inspections.

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2. 15A NCAC 02D .1700 "Municipal Solid Waste Landfills"

   According to 02D .1702, this series of rules only applies to landfills that began operating before May 30, 1991. WOL began operating in 1993, so these rules do not apply.

3. 15A NCAC 02Q .0503(8) "Insignificant activities because of size or production rate"

   This rule considers emission sources as "insignificant" if potential criteria pollutant emissions from that source are each less than five tons per year, and potential HAP emissions are less than 1,000 pounds per year.

   The facility will have two sources that meet this definition: the leachate lagoon and the tub grinder. The leachate lagoon is not expected to produce significant air emissions, and the tub grinder operates intermittently. Therefore, both of these sources will meet the definition of 02Q .0503(8).

   In addition to being considered insignificant, the tub grinder is also not subject to the requirements of MACT Subpart ZZZZ, NSPS Subpart IIII, or NC Toxic Air Pollutant rules. Each of these rules do not apply to "nonroad engines", which are defined by 40 CFR 1068.30.

   According to the definitions in 40 CFR 1068.30, a nonroad engine "By itself or in or on a piece of equipment, it is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another," provided that the engine does not "remain at a location for more than 12 consecutive months or a shorter period of time for an engine located at a seasonal source."

   According to the application, the tub grinder is portable and will be on-site for (on average) two days per year, operating as needed to grind wood waste. Therefore, the tub grinder meets the definition of nonroad engine. It will be included on the insignificant activities list for tracking purposes.

5. Toxic Air Pollutants

This facility will emit toxic air pollutants (TAPs), but the only source at this facility (the MSWL) is exempt from TAP rules per 02Q .0702(a)(27)(A) because it is subject to 40 CFR Part 61, Subpart M.

North Carolina General Statute 143-215.107(a)(5)b. requires that NCDAQ determine if any new facility would "present an unacceptable risk to human health" due to emission of TAPs. NCDAQ requested data regarding this facility such that an air dispersion modeling demonstration could be performed.

On August 9, 2017, Nancy Jones of the NCDAQ Air Quality Analysis Branch issued a memo stating that, based on the information received and demonstration performed, this facility does not present an unacceptable risk to human health because the concentration of each modeled TAP was below the limit given in 02D .1104.

The memo contained the following summary table:

Pollutant	Emission Rate (lb/hr)	Averaging Period	Maximum Concentration ($\mu g/m^3$)	AAL ($\mu g/m^3$)	% of AAL
Acrylonitrile	0.0389	1-hour	0.78	80	1 %

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Pollutant	Emission Rate (lb/hr)	Averaging Period	Maximum Concentration ($\mu g/m^3$)	AAL ($\mu g/m^3$)	% of AAL
Benzene	0.0173	Annual	0.035	0.12	29 %
Hydrogen sulfide	0.3942	24-hour	7.9	120	7 %
Methyl Mercaptan	0.0139	1-hour	0.28	50	0.6 %
Vinyl chloride	0.0531	Annual	0.09	0.38	28 %

Because the MSWL is exempt from TAP rules, no permit condition for TAP emissions will be included in the permit.

6. Facility Emissions Review

WOL, as it currently operates, does not use any control devices. Therefore, actual and potential emissions are the same. WOL submitted emission calculations with the application, see Attachment 1 for details. A facility-wide summary of the calculations is provided below:

Pollutant	Potential Emissions (ton/yr)
PM	0
NOx	0
SO2	0
CO	0
VOC	10.30
Highest HAP (hydrogen sulfide)	1.73
Total HAP	5.14

7. Compliance Status

This facility's compliance status will be determined during the first inspection.

8. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Tennessee, South Carolina and Buncombe County are affected state/local programs within 50 miles of the facility.

The Public Notice and EPA Review periods began on XXXX and ended on XXXX.

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9. Other Considerations:

A P.E. seal was submitted with this 1st Time Title V Permit. It was sealed by Mr. David S. Greene, a registered professional engineer in North Carolina.

A zoning consistency determination is not required with this application.

The application fee of $9,561.00 was received on April 17, 2017 for a greenfield / 1st time Title V permit for a facility that never held an air permit.

10. Recommendations

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Attachment 1 to review of application 4400857.17A
White Oak Landfill

Potential Emission Calculations

The following calculations were performed by SCS Engineers, PC and submitted as part of White Oak Landfill's permit application.

(four pages)

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Attachment 2 to review of application 4400857.17A
White Oak Landfill

Comments Received on Initial Draft

- David Green, by email on December 4, 2017

  1. The facility address in the draft permit is wrong.

     Response: Fixed.

  2. The facility is not currently subject to NSPS Subpart XXX. It will only become subject once construction begins on the planned expansion. Both the permit and review are written as though the facility has already triggered applicability.

     Response: I have added a paragraph to the permit condition for NSPS Subpart XXX that clarifies WOL's current applicability to the rule. I have added sentences in the review that explain this situation as well.

- Mark Cuilla, by email on December 14, 2017

  The email pointed out typos in the permit and review.

  Response: Fixed.

- Booker Pullen, by email on December 21, 2017

  1. The email provided a re-written version of the permit condition for NSPS Subpart XXX

     Response: After some minor discussion, I incorporated this new condition into the permit.

  2. The permit should contain a permit shield for NSPS Subpart WWW and MACT Subpart AAAA.

     Response: I have incorporated these into the permit.

  3. Even though the tub grinder is not a stationary source, it should still be included on the insignificant activity list for informational purposes. In addition, the review should contain a discussion about the tub grinder.

     Response: Done.

  4. The review should contain relevant tables from referenced applications and memos, instead of only referring to them. In the future, a separate application or memo may not be available.

     Response: Done.

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